



**Technical Memorandum
Comments on the Draft Remedial Alternatives
Memorandum**

**Gulfco Marine Maintenance Company
Freeport, Brazoria County, Texas
EPA Identification No. TXD055144539**

**Remedial Action Contract 2 Full Service
Contract: EP-W-06-004
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Prepared for

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1.0 INTRODUCTION

This Technical Memorandum summarizes EA Engineering, Science, and Technology, Inc.'s (EA's) technical review comments for the Draft Remedial Alternatives Memorandum (RAM) prepared by Pastor, Behling & Wheeler, LLC (PBW) for the Gulfco Marine Maintenance Superfund Site (Site), located in Freeport, Texas (PBW 2010c), which was submitted to the U.S. Environmental Protection Agency (EPA) on 17 December 2010. A review of this Draft RAM also required the review of PBW's Remedial Investigation (RI) and Feasibility Study Work Plan (PBW 2006), Nature and Extend Data Report (EDR) (PBW 2009), Final Baseline Human Health Risk Assessment (BHHRA) (PBW 2010a), Final Screening-Level Ecological Risk Assessment (SLERA) (PBW 2010b) and Preliminary Site Characterization Report (PSCR) (URS 2010). In addition, a number of reference and other site documents have been reviewed. A complete list of documents reviewed in this analysis has been included as references to this Technical Memorandum.

General technical review comments pertaining to the Draft RAM are provided in Section 2.0. Specific technical review comments associated with the body of the Draft RAM, including the tables and figures, are provided in Section 3.0.

2.0 GENERAL TECHNICAL REVIEW COMMENTS

General Comment 1. Site Description

It is reported that restrictive covenants prohibiting any land use other than commercial/industrial and prohibiting ground water use have been filed for all parcels within both the North and South Areas. Additional restrictions requiring indoor vapor intrusion have been filed on Lots 55, 56 and 57. Only the restrictive covenants for Lots 55, 56 and 57 have been provided in the RAM. Copies of the covenants for the other lots should also be included.

The statement implies that the restrictive covenants have been filed in the official public records of Brazoria County. Documentation confirming the covenants have been deed recorded should be included.

General Comment 2. Site History

The third paragraph provides a summary of several documents pertaining to the site that have been submitted to EPA. The text further states that each of these documents was approved by EPA. Has EPA provided formal approval of the referenced documents? If not, this wording should be revised.

General Comment 3. Nature and Extent of Contamination.

The discussion of the nature and extent of contamination implies that all data, including that collected during the BERA, were used in this evaluation. The section states that Plate 1 contains the nature and extent locations, except for background samples. Plate 1 does not include the locations of the BERA samples. It is not apparent in the text if the analytical data from the BERA samples as detailed in the PSCR (URS 2010) were used in the evaluation of the nature and extent of contaminants.

General Comment 4. Contaminant Fate and Transport

This section attempts to provide definitive conclusions (key considerations) pertaining to contaminant fate and transport from a report that has not been completed nor reviewed. The contaminant fate and transport discussion should be described as preliminary. The discussion should clearly state that the selected RAMs are based on this preliminary evaluation and may change if the final document finds differing conclusions.

General Comment 5. Ecological Risk Assessment

Although the SLERA concluded that it was necessary to proceed with the BERA, the RAM excludes consideration of the BERA and draws its conclusions from the SLERA and PSCR. The discussion should clearly state that the RAMs were selected prior to the completion of the BERA and may change if the final document finds differing conclusions.

General Comment 6. Remedial Action Objectives

Since the BERA is not complete, the remedial action objectives (RAOs) are based on conclusions reached in the PSCR. It should be noted that they are subject to change.

It is reported that discussions with EPA and TCEQ representatives reveal that RAOOs will not be based on ecological endpoints. EA has no documentation of this discussion and cannot draw any opinions from it.

General Comment 7. Screening of Alternatives

The cost portions of the alternative screening seem to be low. Further details of this concern are provided below.

3.0 SPECIFIC TECHNICAL REVIEW COMMENTS

The following technical review comments pertain to the body of the Draft RAM, including the tables and figures.

1. Cap Upgrade

It has been reported that the waste in the surface impoundment was stabilized and covered with a three-foot clay cap (Carden 1982 and Guevara 1989). According to Table 1 of the RAM, soil borings confirmed the thickness of the clay cap to be between 2.5 feet and 3.5 feet. Previous documents suggest that the waste remaining in the surface impoundments should be considered Class 2 waste. Data and further rationale are needed to support that claim. If Class 2 Waste cannot be justified, the cap for the surface impoundment should meet the Class 1 requirements in the TCEQ Technical Guidance No. 3 – Landfills (TCEQ 2009).

2. Plate 1

The BERA sample locations as recorded in the Final PSCR (URS 2010) are not shown on this figure.

4. Appendix B

Only the restrictive covenants for Lots 55, 56 and 57 have been provided in the RAM. Copies of the covenants for the other lots should also be included.

5. Section 2.2.1, page 14, second paragraph

According to the RAM, numeric PRGs are not quantifiable. The rationale for saying that numeric PRGs is unclear. The RAM PRGs are not appropriate since the risk issue of concern identified for the former surface impoundments is not quantifiable and the potential exposure to the buried waste is uncertain.

6. Section 2.3.1, beginning on page 15

The RAM suggests that the former surface impoundments should be treated as a municipal landfill (MLF) due to their similarities. This suggestion is not fully supported in the document. A detailed discussion of the similarities and differences between the construction, waste composition, waste handling and closure is needed.

If considered a MLF, the surface impoundments need to comply with the requirements set forth in the TCEQ Technical Guidance No. 3 – Landfills (TCEQ 2009). If compliance with these requirements is not possible, the document should provide detailed rationale of the non-compliance and its potential impact on the closure of this site.

7. Section 3.2.3

The anticipated cost for the required upgrade to the cap appears low. Upgrades to the cap are required to ensure it meets the TCEQ cap requirements. Please provide rationale of the quantities of clay and topsoil. A figure showing this alternative would also be helpful.

8. Section 3.3.4

The anticipated cost for the required upgrade to the cap appears low (please refer to Comment 7). Additionally, a more detailed rationale for the ground water recovery system (20 extraction wells) needs to be provided. Provide rationale of treatment technology selected, as well as figures showing the alternative.

9. Table 5

The table should include details on the anticipated costs. The costs do not seem to correspond with the needs to meet the applicable requirements. For instance, the proposed clay volume equates to less than 9 inches of clay added over the entire 3 acres. Revise the table details to mirror the rationale requested in Comment 7.

10. Table 5

The table for Alternative 2 and 3 includes costs for “Deed Recordation/Restrictive Covenant”. As discussed in General Comment 1, the text implies this has already been completed.

REFERENCES

- Carden, Clair A., 1982. Fish Marine Services, Freeport, Texas, Pond Closure Certification. 18 August.
- Guevara, Jairo, 1989, Record of Communication for Reconnaissance Inspection of Former Surface Impoundments of Fish Engineering and Construction, Inc. 28 November
- Pastor, Behling & Wheeler Consulting Engineers and Scientists (PBW). 2006. Final Remedial Investigation and Feasibility Study (RI/FS) Work Plan for Gulfco Marine Maintenance Site, Freeport, Texas. 16 May.
- PBW. 2009. Final Nature and Extent Data Report, Gulfco Marine Maintenance Site, Freeport, Texas. 20 May.
- PBW. 2010a. Final Baseline Human Health Risk Assessment, Gulfco Marine Maintenance Site, Freeport, Texas. 31 March.
- PBW. 2010b. Final Screening-Level Ecological Risk Assessment Report, Gulfco Marine Maintenance Site, Freeport, Texas. 3 May.
- PBW. 2010c. Draft Remedial Alternatives Memorandum, Gulfco Marine Maintenance Superfund Site, Freeport, Texas. 17 December.
- URS Corporation (URS). 2010. Final Preliminary Site Characterization Report, Gulfco Marine Maintenance Superfund Site, Freeport, Texas. 30 November.
- Texas Commission on Environmental Quality (TCEQ), 2009. Technical Guidance No. 3 – Landfills. Revised 12 June.